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ABSTRACT

Workshops, conferences, clinics, seminars, and training sessions are examples of "temporary systems," in which participants suspend their usual roles and responsibilities and concentrate on a few short-term objectives. One mechanism of a temporary system is the use of feedback to determine the extent to which the project objectives are being achieved and the impact that the project is having on the participants. Typically, two evaluation methodologies are used: (1) formative or process, and (2) summative. This paper describes five evaluation processes that provide an evaluation model for staff development programs. The first model--of a formative and process evaluation--is designed to help in the identification of the type of activities that a staff development director might plan. Model two illustrates a more summatively oriented instrument for judging which selected preconference mailings, brochures, etc. were perceived to be most helpful to the participant. The third model illustrates an easy to use form after each major presentation. Model four is one example of "testing" any selected process element of a workshop or a longitudinal inservice education project. The fifth model provides an opportunity for participants to evaluate their perceptions of the over-all experiences offered by the staff development program. (JD)

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TEMPORARY SYSTEMS MANAGEMENT AS AN EVALUATION MODEL FOR STAFF DEVELOPMENT PROGRAMS

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Workshops, conferences, clinics, seminars and training sessions are all part of the typical educator's yearly repertoire of activities. In these sessions, a small number of persons meet for a defined period of time, to achieve specified or unspecified goals or objectives. Most of these activities would be classified by Matthew B. Miles (1964) as being "temporary systems," in contrast to the parent organizations or "permanent systems."

Regarding Temporary Systems

While participating in a temporary system, participants suspend their usual roles and responsibilities from their permanent system and concentrate on a few short-term objectives. Further, they all know that they will be in the temporary system for only a short period of time. It is during the temporary

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system phase of an in-service training project that participants are free to try out new ideas, practice a technique without the penalty of being wrong, or work in a generally supportive and noncompetitive climate, and be away from back-home interruptions.

To install the elements of temporary systems into the evaluation paradigm of staff development programs, there are five rather simple phases which need to be accomplished. These are: (1) planning or preparing for the project; (2) organizing for the project's "start-up"; (3) operating the project; (4) closing the system, i.e., preparing the participants for their "back-home" roles, and (5) implementing the newly learned skills.

Temporary systems exist and operate for only short durations, have well established goals, and even have the expectancy to cease existence in short periods of time. The ad hoc committee is an appropriate example of a temporary system. It is established with a definite purpose, has a predictable life-span, and no one moans the loss of the committee when it is dissolved. Yet, such a structure is a vital link in helping permanent organizations to be innovative and to make needed changes for survival.

Contrasting Permanent and Temporary Systems

Permanent organizations tend to have established hierarchies or lines of power and authority. Roles, norms, and expectations tend to be rather well defined. In the activities of permanent systems, participants are often prescribed by position (role) rather than by an atmosphere which encourages interaction.

A temporary system, contrariwise, provides an environment to be creative, innovative, open, trusting and more communicative with all. Often emanating from a temporary system is a product or process which can be adapted in the permanent system. As these products or processes are being formed, members of the temporary system are urged to be innovative or creative. In a temporary system, personal needs are met by the ability to contribute to the success of the temporary system. There is also a tendency for members to become more supportive of each other and thus reduce personal defensiveness.

The lack of innovativeness in permanent systems may often be explained in that individuals expend their energy in trying to maintain the existing role-defined relationships within that permanent structure of operation. Previously established formal lines of communications, and somewhat rigid patterns for interactions do not create an atmosphere that is conducive to change.

Most of the temporary systems that take place in our society tend to be centered around conventions, trade shows, conferences, workshops, retreats, seminars, clinics or short courses. These systems all have the common traits of: (1) fixed length of time, (2) commonness of goal, (3) homogeneous group identity, and (4) site of action away from the permanent organizations. From the contacts made at these meetings there is an opportunity to meet people back in the permanent system in a more informal setting. Such a "network" aids in altering existing

relationships within a group, and provides one method by which quicker entry into the permanent system is expedited.

The Concept of Feedback

One mechanism of a temporary system is the use of feedback to determine the extent to which the project objectives are being achieved and the impact that the project is having on the participants. Typically, two evaluation methodologies are used: (1) formative or process, and (2) summative.

Formative or process evaluation. Formative evaluation is designed to provide feedback in a rather immediate sense. Formative instruments are specifically designed to monitor selected aspects of the staff development project so that if any problems are emerging, they will be quickly identified and rectified. For example, if some methodology is being used which irks someone, it will be through formative instruments that such trouble-shooting may take place. Participants tend not to inform a workshop director about problems or personal concerns until the conclusion of the project--which is too late. By asking "stem" questions which might identify problems, project directors initiate formative evaluation techniques.

It was this model that has been extensively followed by the senior author. However, the "summative" aspects of the evaluation paradigm will also be discussed in this paper.

One example of a formative and process evaluation is illustrated in Model Number One. This evaluation form would help to identify the type of activities that a staff development director might plan. Model One is not a "learning styles"

checklist, but a preference listing to determine active and passive modes for the participants.

Model Two illustrates a more summatively-oriented instrument. In most workshops or intensive in-service sessions, some prior arrangements are made. The manner in which selected preconference mailings, brochures, or other materials were perceived by the participants is most helpful in the planning of future projects.

Obviously, the authors subscribe totally to the thesis that staff development is a process, not an event. One collects "soft" data to perfect techniques that work best for adult learners.

Model Three illustrates an easy to use form after each major presentation. For example, Orlich has used these forms for one, two, and three week projects where one summative evaluation would not yield accurate or timely information for other presenters. Note in Model Three "item G:" This item quickly provides data relating to redundancy or innovativeness of workshop topics.

Model Four is one example of many used in our workshops to "test" any selected process element of a workshop or a longitudinal in-service education project. The items used on a feedback instrument similar to Model Four may be rewritten by a project director to reflect participant views. Model Four could be given to any group at the end of the first major set of activities, such as the end of the first one-half day of a one day session. The project director determines the type of feedback to be generated by analyzing or speculating about

potential trouble areas. Sometimes these trouble areas are a most inconsequential matter, e.g., the coffee is too cold, the donuts are too filling. Any minor excuse is used by workshops attendees to rationalize their own apathy. By using a temporary system instrument, these little nuances are quickly rendered to the "ineffectual heaps."

The information gained by using formative evaluation instruments should be tabulated immediately and summarized. The data must be shared with all the staff so the corrective actions or adjustments may be made in those areas which are not being received well by the participants. We mentioned earlier that feedback was provided to all who were associated with the temporary system. The participants are also give a report on each of their evaluations! After all, we want them to share in the system's decision-making and know how they, as a group, are reacting. Where possible, return the rating sheets to the group so that each member can locate his or her own and then compare the individual rating sheet with that of the entire group. (This can be done by having each member place a code or symbol on the instruments).

By using this technique there is a strong tendency for dissidents to show behavior changes and fall more in line with the group. This is especially helpful when one or two persons who are "grousing" tend to become disruptive and provide a strong negative influence against the project's intended outcomes. But, by using temporary systems management strategies, the minority

will be shown as just that. Under such cases the majority then tends to influence and adjust inappropriate minority behaviors.

This is not to imply that genuine disagreements are not tolerated. Contrariwise, when using these techniques it will be readily apparent that conflicts are more easily reconciled. Participants have some method of participating in the decision-making activities of the project. For those temporary systems which are scheduled for 5 to 20 days, it is essential to appoint various committees to provide feedback and reports to all. Such committees might be: a social committee, evaluation committee, publicity committee, grievance committee. The essential element when using temporary systems management is that the committees are genuinely integrated into the operations.

The rationale for feedback or formative evaluation is to provide data on which to make correctives--immediately, if not sooner! When participants realize that their influence is guiding the system, they tend to become more responsible and sensitive to all involved in the system. The instructional climate and total environment becomes positive and supportive. That is precisely the kind of learning climate that one ought to subscribe always when conducting any in-service workshop or conference.

Organizing for"Start-Up"

The initial perceptions of workshop participants tend to be the lasting ones. If you accept the previous statement as being a valid generalization, then you will agree that any temporary system must get off to a good start. It must be understood that

participants make role transitions when attending any program. You can aid in this transition by providing some means by which staff and participants may become acquainted. A short reception the evening before a project begins is one easy method to implement. Any type of informal reception or gathering helps to reduce the anxiety or feeling of "loneliness" associated with conference or seminar attendance. Name tags, short introductions, conversations and a "punch bowl" are always sure ways to build a strong start-up.

Depending on length of the temporary system, the director might provide a blank list on which the participants list their interests in recreational activities, e.g., bridge, golf, hiking, swimming and the like. Such lists help the participants to locate others with similar interest; and again, this technique improves the climate of the temporary system. A short course or seminar just doesn't have the time for the typical "gamesmanship" that is so obvious in permanent systems. Efficient use of time is of essence in a temporary system. Project directors must be cognizant of every possible means to institute immediate and positive interactions among all who are involved in the temporary system.

Start-up Macro Plan

If a general plan was not distributed to the participants in the preconference materials, then a general or "Macro Plan" should be provided at the first formal session. This helps all persons to understand what will take place and when. Such a plan

also "answers" many questions in advance that participants may have had, thus saving initial time and effort.

It should be explained that the participants will have opportunities, NB: plural, opportunities; to react on the project's conduct. This alone will cause people to be more responsible in their own actions.

All necessary materials, books, paper, pencils, and equipment should be ready for the start-up. The project director must prepare a written inventory of what is needed so that nothing is left to chance. All management activities are focused on making the project meaningful to those attending.

If small groups are to be established, then a general plan is devised so that participants and tasks may be assigned in an efficient manner. A varied set of experiences should be provided for the start-up. If a guest speaker is to kick-off the project, then be certain that the speaker is dynamic and positive. Nothing helps to launch a project like a "perceived winner" at the start.

In some cases, the project might be the first of several such seminars, conferences or short courses. For example, state agency personnel often conduct workshops in several different locales. If this is so, then after the first project start-up, request explicit feedback about the preconference activities. This feedback will help to improve future conferences. Model Two, is an example of such an instrument.

Project Operations

It may be assumed that in most workshops, seminars or short courses, there is a mix of lecture, activity, hands-on experiences, laboratory work, study of print or nonprint materials and the like. Often there will be individual tasks, small group tasks or even large group tasks. In more comprehensive projects, there may be several different visiting "fire persons" who provide instruction. With participants functioning in many different roles and learning situations, it becomes important for them to provide feedback to the project staff on how they are perceiving the temporary system and how they are reacting to it. Thus, during the project operations there should be a consistent flow of collected feedback from those who attend. There is much, much more related to project operations, but that is a topic for another time.

System Close-down

The start-up activities of a temporary system are aimed at making a smooth transition from the permanent system to the temporary one. The system close-down is aimed at helping the participants finalize plans so they may use the information, skills or whatever back in their respective permanent systems. Presentations which are specific to orientations on implementation procedures should be a part of the system close-down.

Depending on the type of in-service education project, the basic mechanism to be used will resemble planning or problem solving techniques. In short, the project director helps each

participant to work out appropriate "back home" implementation plans.

Further, the final or summative evaluation of the temporary system must be conducted. Model Five illustrates one way to accomplish that. (Model Five will be discussed later).

While there is no way "to close-down a temporary system gracefully" there should be some means established whereby members may contact each other if they so desire. A network might even be established for the sharing of information which may be of interest to all or some of the participants in the near future. The project director should alert each member of the temporary system to the possibility of follow-up and what is planned by the leader. This leads to the final phase, the follow-up by the director and implementation by the participants.

Implementation and follow-up

The primary goal of temporary systems management is to maximize the training that is being conducted. Thus, the "back home" activities are focused on implementing the newly learned skills. The participants must be certain to present their implementation plans to those administrators who must endorse them. These include the superintendent of schools, the curriculum director and the school principal. Finally, the skills or newly learned activities become a part of the curriculum--that is what implementation is all about!

The project director should distribute news releases about those who attended the seminar to the respective local media. This is essential so that participants may gain professional

recognition. Further, the project director may send out short questionnaires to determine the degree of implementation over an extended period of time. Then there is the preparation of the final report. The final report usually contains the basic elements of goals, objectives, procedures, and evaluation data. The collected data, in the formative processes and summative evaluations, are synthesized for the final report document. Time permitting, follow-up data might be added or it maybe provided as a future addendum.

Temporary systems management is one technique that can be used to facilitate in-service training. By emphasizing feedback, there is focus on decision-making processes and immediate adjustment needed to established and maintain a responsive environment for the participants. Evaluation is used as a continuous process rather than as a one-shot task which never impacts the training activities. The use of temporary systems management does cause more work for the project director. But, properly used temporary systems management also means a successful project--from all perspectives.

Problems of Temporary Systems

The planned incorporation of a temporary system into a permanent system requires that the two structures be supported simultaneously. The permanent structures, of course, keep the organization intact. Temporary systems emerge as needed to cope with the stresses which are not reconciled in the permanent organization.

There are at least five problems which may be anticipated when using temporary systems.

1. There may be too much stimulus in the temporary system causing the participants to over exert themselves as they manage their extra work loads.

2. The liberation from the permanent organization may generate unrealistic goals or expectations which cannot be attained.

3. Many individuals will initially lack the interactive skills which are necessary to cope with others in an intimate, and intensive interpersonal climate.

4. A sense of alienation can develop as persons may perceive the possibility of producing changes in the permanent organization as being too remote.

5. Because innovations may take time to be implemented fully, they may not obtain support from the permanent structure. This situation then causes a linkage break-down between the systems.

None of the above five is an insurmountable problem, but each should be anticipated and a plan developed to deal with it.

Summative Perceptions

Those final evaluations of a project or workshop are completed to give a glimpse of how people "feel" when they leave. Key the summative evaluation elements to the major objectives of the project. Model Five illustrates one that we have used since 1972. One tabulates these data to determine long-range trends.

Forms such as these are charted to show the relative "perceived effectiveness" by various participants.

Multi-year Field Test of the Model

One major objective of this paper is to report the findings of a series of studies designed to determine the efficacy of using formative (interactive or transactional) techniques to evaluate 17 different intensive workshops directed by the senior author between 1972 and 1989.

Subjects. The subjects were participants in a series of different National Science Foundation projects conducted during the summers of 1972, 1973, 1974, 1975, 1978, 1979, 1980, 1981, 1982, and three separate workshops held in 1986. In 1988, three one-week workshops were conducted, and two one-week workshops in 1984. Each group was comprised of 35, 45, 28, 50, 51, 46, 45, 44, 48, 25, 12, and 40 different individuals, respectively. In 1988, groups were 24, 25, 25. In 1989 groups were 20 and 25. The subjects were elementary or middle school teachers, principals, intermediate school district curriculum personnel, administrators, or science consultants. All subjects attended three-week instructional programs of 1972, 1974 and 1978 as volunteers. In 1975, the conference was six days and in 1978 was eight. The 1980, 1981, 1982 and 1986, 1988 and 1989 conferences were five days in length. (All persons received expenses and free tuition).

Procedures. To accomplish the formative evaluations, a series of instruments were administered to determine the "environment" of the project as perceived by the participants.

The instruments were designed in part from an institute conducted in 1972 by Robert Bernoff, Emily Girault, Mary Budd Rowe, Matthew B. Miles and Dale Lake (1973) and adapted by D.C. Orlich (1978). Especially important to the conceptual basis of this study was the "Temporary Systems" theory proposed by Miles (1964). This evaluation model is also featured in Designing Short-Term Instructional Programs (Waterman et al., 1979) and Staff Development: Enhancing Human Potential (Orlich, 1989). Implicit to the evaluation system is the assumption that "affective" feedback is desirable by instructional managers or workshop directors. Frequent evaluations were administered during the conduct of the projects, ranging from daily to weekly.

Model Five shows one of the final evaluation forms administered on the last day of each project. Thus, comparable data were "luckily" collected over a 17 year history.

Observe Table 1 which shows the mean responses for the eight categories which are shown on Model Five. Using a zero to five scale, there were only nine times in 96 categories that the mean evaluation fell below 4.0 (5.0 is the absolute top). Even less variation would be shown by the group medians which were ranked at 5.0 almost consistently. Further observe the consistency of participant responses for the 17 different workshops.

Tables 2, 3 and 4 and 5 show the same data but arranged by blocks. These are shown here so that staff development directors might plan for such a system by which data are collected to provide evidence regarding the relative effectiveness of different workshops or their presenters.

Figures 1, 2, 3, 4, 5, 6 and 7 are provided to illustrate the impact of the evaluations in graphic form.

Conclusions and Implications

The techniques and instruments in our projects have provided one means by which to measure the direction of participant affectivity and perceptions of non-cognitive dimensions of instruction which may affect cognitive achievement.

The technique and instruments require an open system of interaction between workshop or instructional leaders and learners. Further, the installation of a formative or interactive evaluation system requires systematic and frequent monitoring of participants and the utilization of the information by the leaders thereby generating greater group cohesiveness, solidarity, and program adjustment. The latter did take place in all special projects sponsored by NSF at Washington State University.

The use of formative data may be used as one evaluative technique by which to judge or evaluate: (1) instructors, (2) instructional techniques, (3) group responsiveness to program management, (4) general affective environment of intensive learning experiences, (5) workshop or short-term science education projects, and (6) trends. Used in conjunction with other evaluative techniques, a rather "realistic" evaluation pattern will emerge. Ideally, these data will then be used to adjust, modify or drop specific staff development activities.

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Model One

PERCEPTIONS ON COURSE/WORKSHOP CONDUCT

Please circle one number on the scale at a point which indicates the direction of your preferred structure for the general conduct of this class/workshop.

		I PREFER						
1.	Individualized activities or projects	0	1	2	3	4	5	Group activities or projects
2.	Active roles for participants	0	1	2	3	4	5	Receptive role for participants
3.	The instructor to present all information	0	1	2	3	4	5	Group members to share reports or research
4.	Mutual assistance and sharing information	0	1	2	3	4	5	Separate individual work
5.	General, unthreatening feedback only	0	1	2	3	4	5	Specific, candid professional judgments
6.	Lectures and some general class discussions	0	1	2	3	4	5	A mix of lecture, small group discussions & individual conferences
7.	Evaluation (Grade) based on some prescribed criteria	0	1	2	3	4	5	Evaluation (grade) based on consensus

8. Comments:

Model Two

FEEDBACK ON PRECONFERENCE MATERIALS

Directions: Please evaluate each statement by placing the code below in the space provided.

3 -- Very helpful
2 -- Helped somewhat
1 -- Unnecessary
NC -- Not included in my packet

_____1. The maps, travel information, lodging, needed clothing and equipment list.

_____2. The list of guest presenters.

_____3. The general project schedule.

_____4. The list of known participants.

_____5. Recreational hints and activities available at the conference site.

_____6. The registration forms.

_____7. The original announcement about the conference.

Please add any other items of information that you would like to have known in advance. Explain any item that you ranked lower than "3".

Model Three

CONTENT EVALUATION/PRESENTER CRITIQUE

Place the number that best describes your reactions to each content presenation on the line in front of each item. Use the following code:

1. NOT WORTHWHILE
2. OF LITTLE WORTH
3. WORTHWHILE
4. VERY WORTHWHILE

Content Topic (or presenter)_____

_____A. The introduction

_____B. The print materials

_____C. The discussion

_____D. The participation in selected activities

_____E. The overall presentation

_____F. Your reaction to total presentation

_____G. How much of the content did you know before this presentation: (Check only one of the following responses)

_____1. I was very knowledgeable.

_____2. I had previous exposure.

_____3. I only knew that there was such content, but knew very little about it.

_____4. I knew absolutely nothing of the content. This was my first formal experience with it.

Add one word that best describes your reaction.

H. The presentation was: _____

I. Comments:

Model Four

QUICKIE FEEDBACK

Directions: Place an X on each line above the category which best describes your reactions.

1. How has the workshop progressed to date?

Moving very slowly*	Could move faster	Moving along nicely

2. How is your participation in the workshop?

Not with it at all*	Could participate more	Really with it

3. Is the organization and conduct of the workshop meeting your expectations?

Not at all*	Meeting some, not others*	Meeting them well

4. Was the preconference information adequate for you to make an easy adjustment of translating the content from the project to your class?

Very inadequate*	Inadequate*	About right	Very adequate

*Comments or suggestions:

Model Five

CONFERENCE SUMMATIVE PERCEPTIONS

We expect that you may be having a variety of experiences in this project and, of course, these experiences affect what you will learn (or have already learned). These experiences and consequent learnings will aic the director of the project to improve the project.

Carefully read through the items below. For each one, circle one number on the line showing how well you think the various management tasks have been done by the director and the staff.

FREQUENCIES

1.	Project goals were not specified clearly.	0 1 2 3 4 5	Project goals were specified very clearly.
2.	Climate of this project was poor.	0 1 2 3 4 5	Climate of this project was very good.
3.	The "wrong" people came to this project.	0 1 2 3 4 5	The "right" people came to this project.
4.	Overall design of this project was quite ineffective.	0 1 2 3 4 5	Overall design of this project was quite effective.
5.	Project did not get off to a good start.	0 1 2 3 4 5	Project got off to a very good start.
6.	This project will have no influence on how I approach science curricula.	0 1 2 3 4 5	This project will strongly influence how I approach science curricula.
7.	Staff resources were poorly used in this project.	0 1 2 3 4 5	Staff resources were well used in this project.
8.	There have been no "experiential" or "hands-on" learning activities used in this project.	0 1 2 3 4 5	"Experiential" or "hands-on" activities have been frequently used in this project.

Table 1. MEAN RESPONSE SCORES FROM 1972 TO 1989

Year	1972	1973	1974	1975	1978	1979	1980	1981	1982	1986	1988	1989	Mean
Goals	4.4	3.6	4.2	3.7	4.0	4.0	4.2	4.0	4.0	4.2	4.7	4.6	4.1
Climate	4.9	4.2	4.5	4.5	4.5	4.1	4.5	4.6	4.4	4.8	4.9	4.9	4.6
People	4.6	4.1	3.3	4.6	4.0	3.8	4.4	3.8	4.0	4.5	4.8	4.9	4.2
Design	4.5	3.7	4.0	4.3	4.1	4.2	4.6	4.3	4.2	4.4	4.7	4.7	4.3
Start	4.4	4.2	4.0	4.7	4.4	4.1	4.7	4.3	4.4	4.6	4.8	4.8	4.5
Influence	4.8	4.8	4.2	4.3	4.4	4.3	4.4	4.0	3.9	4.2	4.8	4.6	4.4
Staff	4.6	3.5	4.3	3.9	4.2	4.1	4.3	4.1	4.3	4.5	4.8	4.8	4.3
Hands-on	4.8	4.8	4.3	4.4	4.6	3.9	4.4	4.7	4.6	4.7	---	5.0	4.6

Table 2. MEAN REPSONSE SCORES FROM 1972 TO 1975

Year	1972	1973	1974	1975	Mean
Goals	4.4	3.6	4.2	3.7	4.0
Climate	4.9	4.2	4.5	4.5	4.5
People	4.6	4.1	3.3	4.6	4.1
Design	4.5	3.7	4.0	4.3	4.1
Start	4.4	4.2	4.0	4.7	4.3
Influence	4.8	4.8	4.2	4.3	4.5
Staff	4.6	3.5	4.3	3.9	4.1
Hands-on	4.8	4.8	4.3	4.4	4.6

Table 3. MEAN REPSONSE SCORES FROM 1978 TO 1982

Year	1978	1979	1980	1981	1982	Mean
Goals	4.0	4.0	4.2	4.0	4.0	4.0
Climate	4.5	4.1	4.5	4.6	4.4	4.4
People	4.0	3.8	4.4	3.8	4.0	4.0
Design	4.1	4.2	4.6	4.3	4.2	4.3
Start	4.4	4.1	4.7	4.3	4.4	4.4
Influence	4.4	4.3	4.4	4.0	3.9	4.2
Staff	4.2	4.1	4.3	4.1	4.3	4.2
Hands-on	4.6	3.9	4.4	4.7	4.6	4.4

Table 4. MEAN REPSONSE SCORES FROM 1986 TO 1989

Year	1986	1988	1989a	1989b	Mean
Goals	4.2	4.7	4.7	4.5	4.5
Climate	4.8	4.9	4.9	4.8	4.9
People	4.5	4.8	4.9	4.9	4.7
Design	4.4	4.8	4.9	4.7	4.6
Start	4.6	4.9	4.9	4.8	4.8
Influence	4.2	4.8	4.5	4.7	4.5
Staff	4.5	4.9	4.8	4.8	4.7
Hands-on	4.7	---	5.0	5.0	4.9

Table 5. MEAN REPSONSE SCORES FOR THREE PROGRAMS IN 1988

Year	1988a	1988b	1988c	Mean
Goals	4.7	4.6	4.8	4.7
Climate	4.9	4.9	4.9	4.9
People	4.9	4.8	4.9	4.8
Design	4.8	4.7	4.9	4.8
Start	4.9	4.8	4.9	4.9
Influence	4.9	4.8	4.9	4.8
Staff	5.0	4.8	4.9	4.9

FIG. 1 MEAN RESPONSE SCORES FOR GOALS, CLIMATE, PEOPLE, AND DESIGN FOR 1972-1982

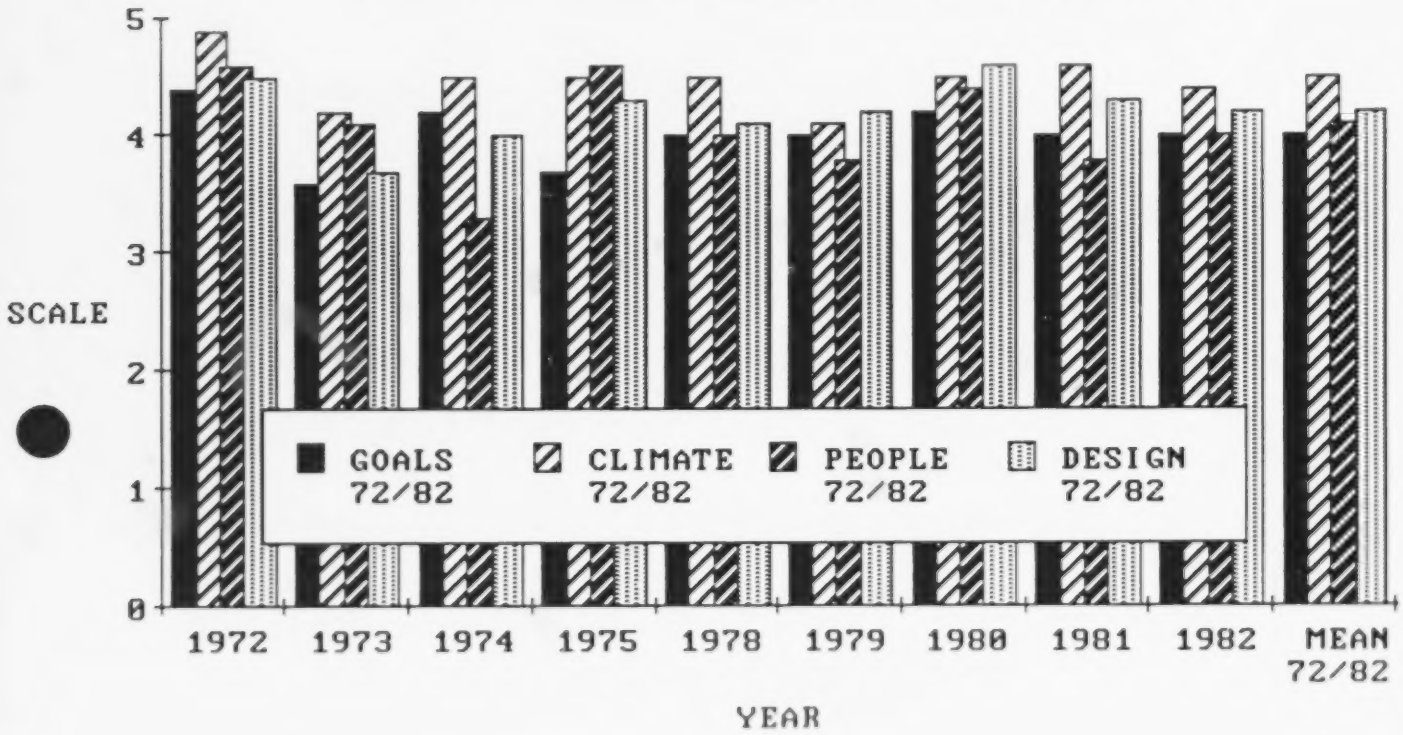

FIG.2 MEAN RESPONSE SCORES FOR START UP, INFLUENCE ON TEACHING, USE OF STAFF, AND HANDS-ON ACTIVITIES FOR 1972-1982

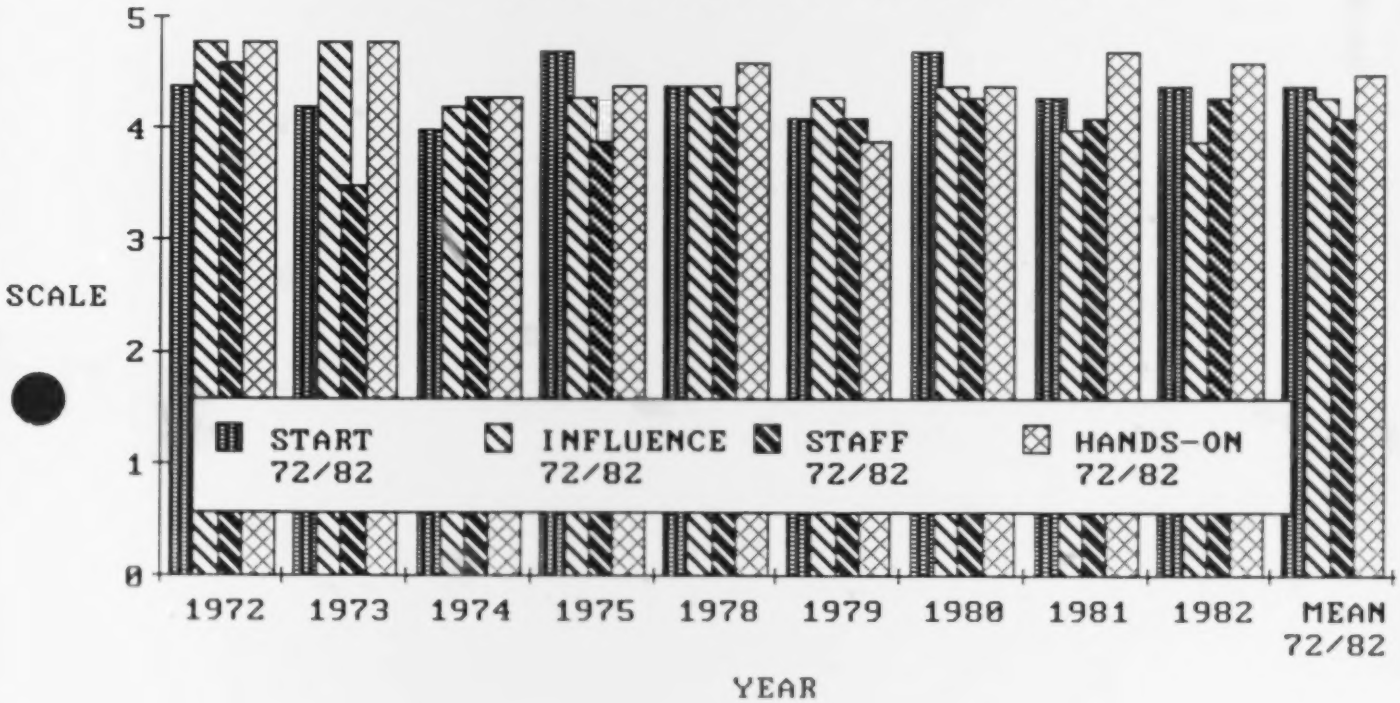

FIG. 3 MEAN RESPONSE SCORES FOR PROGRAMS
IN 1986, 1988, AND 1989

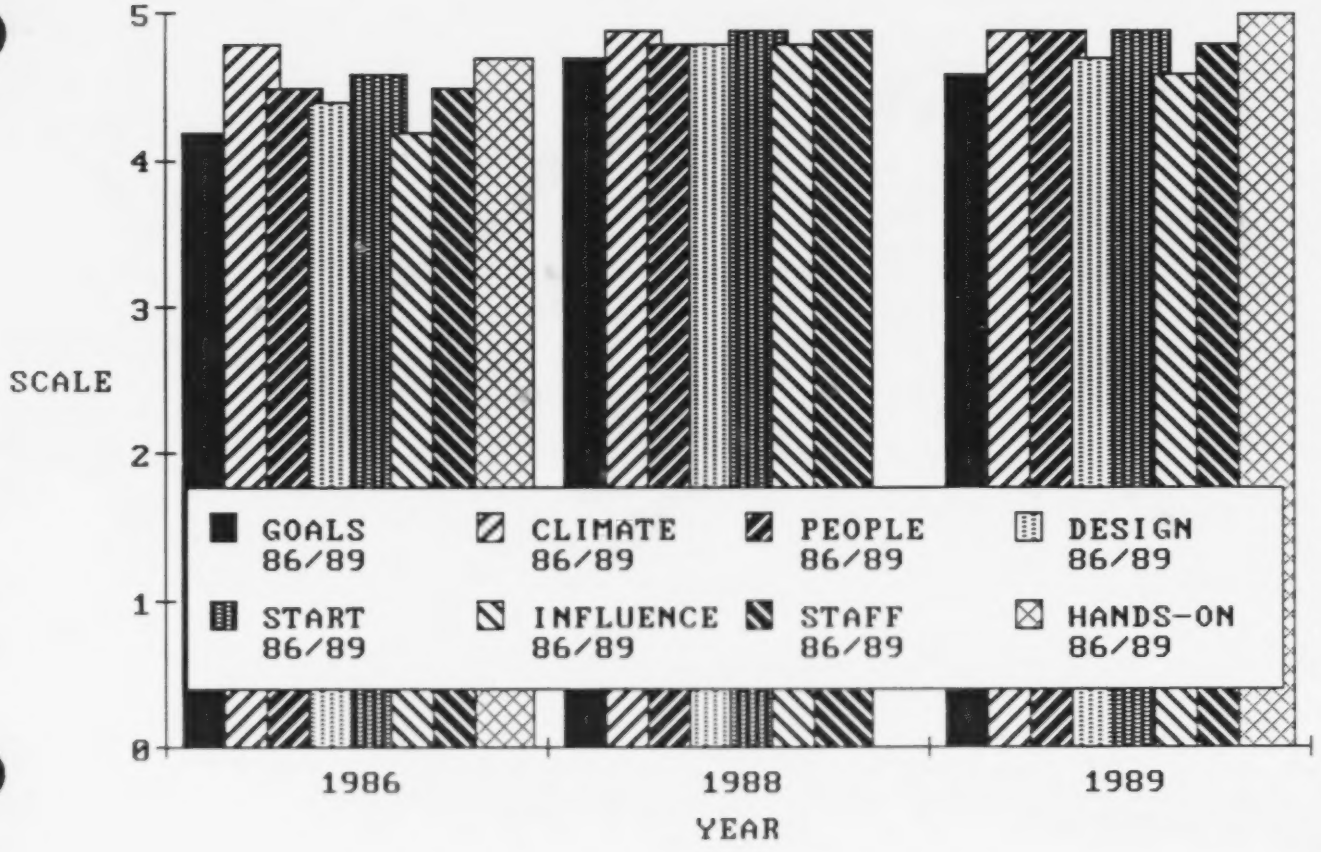

FIG. 4 MEAN RESPONSE SCORES FOR THREE PROGRAMS IN 1988

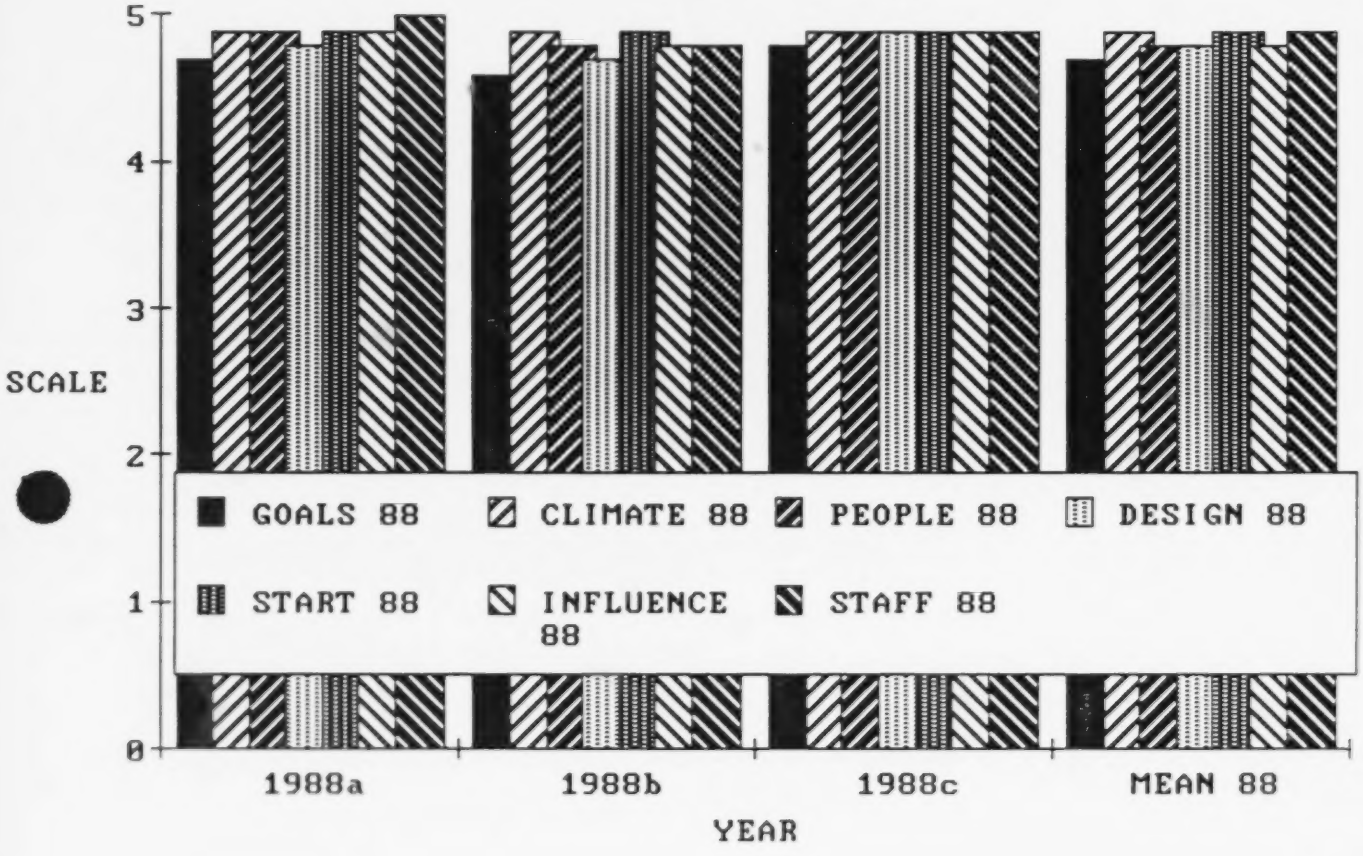

FIG. 5 MEAN RESPONSE SCORES FOR TWO PROGRAMS IN 1989

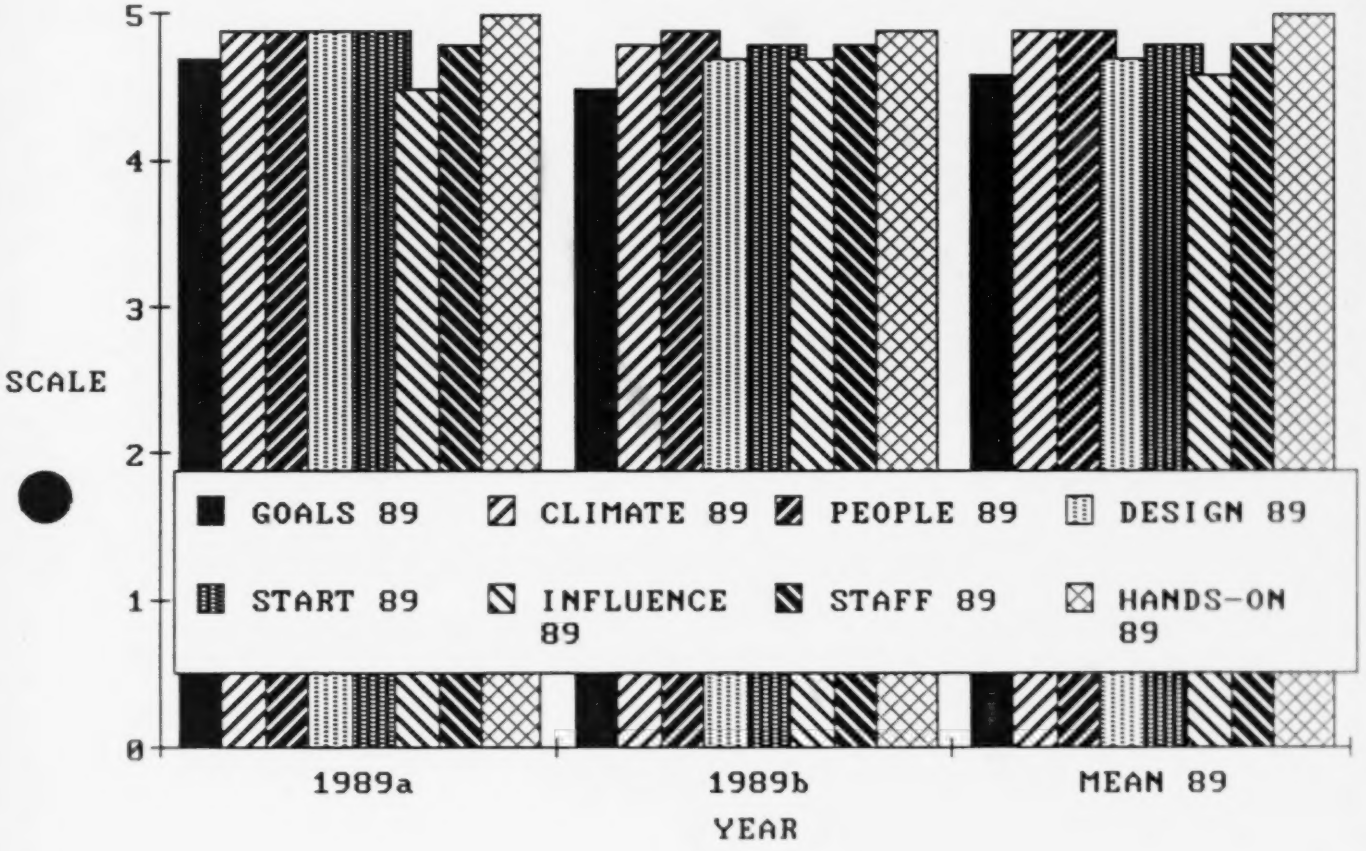

FIG. 6 MEAN RESPONSE SCORES GROUPED BY YEARS

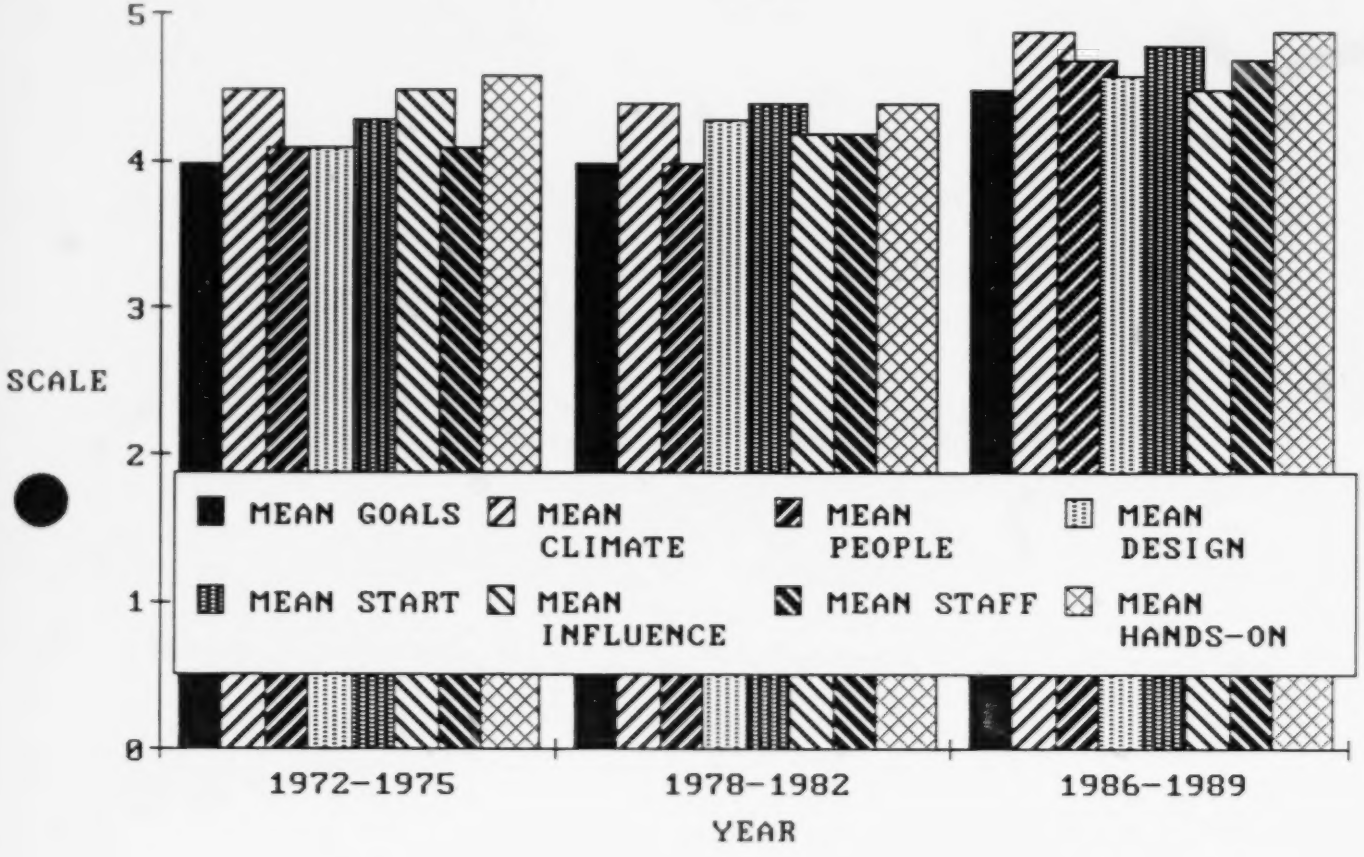

FIG. 7 MEAN RESPONSE SCORES FOR THREE PROGRAMS IN 1986